

SYST 490

Homework #2: Critical Reading

Describe each of the elements of a System Engineering Design and Analysis for the technical paper *Tradeoff Analysis of Regenerative Power Source for Long Duration Loitering Airship* (Lubkowski, Jones, Rojas, Morris, 2010).

Notes:

1. Read the paper first, then answer the questions below.
2. Keep in mind, the paper is not perfect and elements of an SED&A may be incomplete or missing. If an element is missing, note that it is missing and describe what you think should have been done.
3. Keep descriptions short. Bullet points or short paragraphs
4. List the source of your description by page number and paragraph no. (e.g. page 1, para 1,2,3 and 4)
5. Use bullets, short sentences and short paragraphs. No Victorian novels, please.

Q1: What “physical processes” were studied in this design and analysis? What laws of engineering were used to model each process?

Q2: What is the context of the study?

Q3: Who are the major stakeholders and what are their objectives? Are any of their objectives conflicting?

Q4: What is the Problem Statement? (i.e. what is the gap)?

Q5: What are the proposed solutions?

Q6: What simulation/model was developed to tradeoff proposed solutions?

Q7: What was the Design of Experiment (DOE)?

Q8: What were the results/recommendations?